VIRGINIA WILDLIFE

DECEMBER 1989 ONE DOLLAR

"The first U.S. Fish and Wildlife Service biologists to arrive here told of counting 1,500 dead birds on the beaches and seeing oil six inches deep in places. Sea otters were trying in vain to rub the oil from their eyes."—"Special Report: Wreck of the Exxon Valdez," *Audubon*, September 1989.

Like many Americans, I indignantly cut up my Exxon credit card last year and hurled it back to the president of Exxon along with a burning letter of incrimination following the Exxon Valdex oil spill. I blamed the company, the captain, I blamed them all. I hoped they would live with the horror of their error for the rest of their lives.

But, I knew they wouldn't. Big business. They're immoral, we tell ourselves. Rotten, all of them. The problem is that once we believe we have singled out the bad guy, along comes this compassionate story in a magazine about the haunted captain of the Exxon Valdez, the story of a scapegoat who has a story of his own to tell the world that blames him for the catastrophe. It wasn't his fault, we read. It was Exxon's. Exxon says it was the Coast Guard's fault, or the state of Alaska, And the excuses go on. . .

So, who shall we hope burns in hell when we read of sea otters trying to rub oil from their eyes? It's not good enough to find out that everyone has an explanation, an alibi, a reason for not taking the blame.

When things get complicated like this, I am reminded of what a gray-haired wildlife biologist said in a recent *Audubon* television special on the plight of grizzly bears in the West and their struggle to survive in a man's world: "You know, the more complex we seem to make things, the more opportunity there is for self-delusion."

That clear-eyed biologist issues the challenge to bypass excuses and find the truth. And, I'm beginning to believe that the truth behind those disasters that wrench our souls because they never should have happened is very simple. We no longer accept responsibility for our actions.

And why should we? My gosh, we've never had to take responsibility for much of anything we've ever done in our lives. For the most part, we expect the government to take care of the nasty job of enforcing right and wrong for us. If a plant is caught polluting the air or poisoning our rivers, it's the government's fault for not catching them and making them stop. If a savings and loan bank is stealing from the public, it's the government's fault for not finding them out. If a poacher keeps taking deer season after season and brags about it to his friends because he's never gotten caught, it's the game warden's fault for not apprehending him—for proving that he did the *wrong* thing. We have developed a whole system for escaping from a personal responsibility for our actions, and in doing so we have eliminated the guilt, the personal horror of making a bad decision, along with the triumph that accompanies acts of greatness.

I am not advocating anarchy here. I understand the need for a societal system of right and wrong. I simply say we must learn to be moral again. Richard Cohen of the *Washington Post Magazine*, lamented one Sunday about the utter lack of individual morality in our society. He also called it a lack of *character*. I call it a lack of courage.

The truth is never cluttered with excuses. As Senator Ted Stevens from Alaska, commenting on the Valdez disaster said: "The problem cannot be solved in Washington. It's got to be solved in the heart of every American." It's time to face the anguish of our mistakes. It's time to take the blame.—*Virginia Shepherd*

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Photo by Herb Foster.

Cover: Black bear (*Ursus americanus*); photo by William S. Lea.
Inside back cover: Raccoon (*Procyon lotor*); photo by William S. Lea.
Back cover: Boy with dog; photo by William S. Lea.

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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

Black bear (Ursus americanus); *photo by Lloyd B. Hill.*

Welcoming The Bears Home

Once the home of black bears, the mountains of Southwest Virginia are welcoming back their bears as a result of a relocation project underway by the Department of Game and Inland Fisheries.

by Bob Gooch

If you're a Shenandoah National Park bear, the southwest Virginia highlands could be your home.

Mack Walls' eyes sparkle as he warms to the subject—an exciting new game management plan he heads in mountainous southwest Virginia. As regional wildlife manager for the Department of Game and Inland Fisheries in that sprawling region, he has a deep professional interest in its wildlife resources, an interest flavored by the fact that as a native of Saltville his roots go deep in that picturesque country of high mountains, green valleys, and sparkling streams. This opportunity to improve its wildlife populations is a welcome challenge.

We're talking about the black bear, of course—and a promising plan to revive its populations in a traditionally rich bear country. The bear is no stranger to those rugged mountains; after all, no less a hunter that Daniel Boone once hunted them there. And how do you think the Beartree Recreation Area in the Jefferson National Forest got its name?

Sure, there have always been black bears in southwest Virginia, though their numbers have plummeted. "The bear went the way of the white-tailed deer," said Mack Walls. "Both all but disappeared early in this century."

The devastation of 70 to 90 percent of the forests by logging interests and railroads and unregulated hunting were the primary culprits. "My father worked hauling logs for sawmills and he often expressed concern about what was happening," Walls continued. Farmers also took a heavy toll. Occasional raids on bee hives, calves, crops, and lambs raised their wrath, and bears were shot on sight.

Add the fact that Americans have a deep-rooted fear of bears and you get a picture of the rocky road the black bear has had to travel. "People don't seem to realize the black bear is a very timid animal," said Walls. "Except for a few campground bears that have been spoiled by people feeding them, bears will make every effort to avoid humans."

Bear seasons in southwest Virginia also haven't favored a increase in bear populations, with their history of complexity confused by legislative action brought on by pressure on the General Assembly. It has hardly been an atmosphere in which sound bear management could be practiced. Back in the 1950s, for example, the season in Bland County opened October 15, even though it did not begin elsewhere until late November. And from the 1954-55 season through the 1988-89 one, the season in the counties of Bland, Giles, Grayson, Pulaski, Smyth, Tazewell, Washington, and Wythe was different from those elsewhere in southwest Virginia and west of the Blue Ridge generally. Fortunately, the 1988 session of the legislative body repealed this season and the Depart-

Eighty black bears have been relocated to southwest Virginia in a Game Department attempt to bring the bear back home to its highest mountains; photo by Bob Gooch.

ment of Game and Inland Fisheries regained the control needed to set biologically sound seasons with the 1989-90 regulations.

The old legislative season never enjoyed the support of wildlife biologists, since they believed it opened too early. Wildlife managers like a later opening, one that gives the females, or sows, time to den up before the shooting begins. They have been able to realize this in areas where the Department fixes the seasons, and the results there have stabilized bear populations. Fortunately, this is now possible in southwest Virginia, and the 1989-90 season opened there on November 27, just as it did elsewhere in the state.

Bears were legal statewide well into the 1970s, but in 1974 the then Commission of Game and Inland Fisheries, upon the recommendation of its game division, closed 67 counties to hunting. These were counties where minimal kills indicated there were no substantial bear populations. Included in this group were a handful of southwest Virginia counties, deep western counties such as Lee, Scott, and Wise, and some to the east such as Carroll, Floyd, Patrick, and Roanoke. The Commission couldn't touch the counties included in the legislative season, but it enjoyed limited control in the other southwest Virginia counties. Except for part of Roanoke, these counties remain closed under the Department's jurisdiction. So do Grayson, and parts of Montgomery, Pulaski, Roanoke, Russell, Smyth, Tazewell, Washington, and Wythe. The Russell County season is a brief one in early December, but it opens the Clinch Mountain and Hidden Valley Wildlife Management Areas to bear hunting. Wildlife managers have been able to practice limited bear management in these two southwestern wildlife management areas.

With a uniform season throughout Virginia's bear country and the Department finally in control of setting biological sound ones, the stage was set to initiate a black bear comeback in the southwest Virginia high country. Most significant was the ability to maintain a late opening date to protect the vital female bears.

"We had the ingredients for a sound restocking program," said Walls. "Thanks to the Jefferson National Forest and other woodland owners, the forests have recovered here in southwest Virginia and we have some prime bear habitat. Much of it is in remote country, the kind of country bears seek out and thrive in—far from too much human activity. And over in the Shenandoah National Park we have a source of bears, excess animals, for restocking."

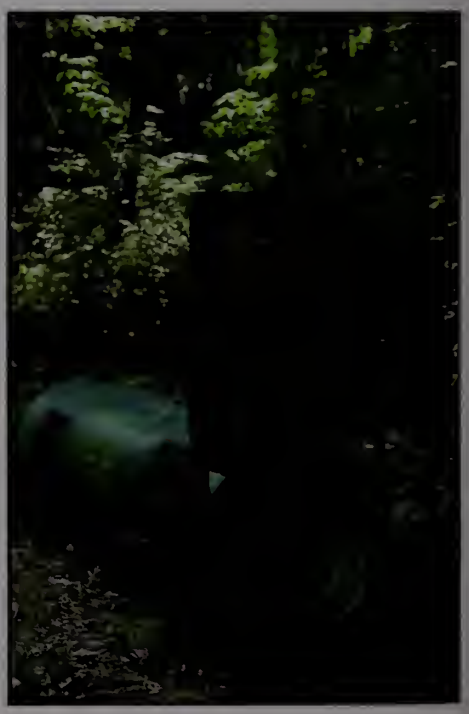
The Shenandoah National Park bears are trapped mostly in the spring or fall when they are creating problems such as raiding bee hives or ripe corn crops. "They come from the fringes of the Park," said Walls, "not deep in the forests. It's when they wander out of the Park that they create problems."

Most are taken in culvert traps, a contraption that looks like an oil drum. That's the ideal way. "But some of the old 'educated' bears have been trapped several times and will avoid the culvert traps," said Walls. "Our trapper, Jerry Blank, then turns to more sophisticated methods such as Aldridge snares that catch and hold them by the foot until they can be tranquilized with a dart gun for handling."

Walls and his aides don't attempt to locate the ideal habitat in which to release the animals. Instead, they seek the most remote areas in those rugged southwest Virginia hills. "We've found that bears quickly find the kind of country they prefer. Instinct, I suppose. We don't try to do this for them," said Assistant Biologist Jim Haulsee. "We just get them as far away from human populations as we can."

Remote country means that a normally shy bear will not be disturbed by human activity, and is less likely to

Culvert traps are an important tool in relocating bears. Once caught, the bears are transported immediately to their new homes; photo by Bob Gooch.



become a problem animal when there are no bees, cattle, or crops for it to raid. In 1988, Walls and his fellow biologists began moving bears from the Shenandoah National Park to the southwest. Most were released in Grayson County. A total of 33 bears were relocated that year, and 11 of them were sows.

There's usually some loss in such an undertaking, not while the animals are being trapped and moved, but after they are relocated. Eight of the bears were lost that year. Legal hunters took two of them in Wythe County during the open season. They had apparently migrated from their release site in Grayson County. Two were killed illegally, and three where hit by automobiles. "There may have been others, but that's all we can account for," said Mack Walls.

When the program was in the planning stages, Larry Grimes, Jefferson National Forest district ranger, expressed some concern about how the public would react to an increase in bear numbers. But this reaction has not surfaced. On the contrary, increased bear sightings have provided thrills and created a new interest in them.

The restocking program picked up steam in 1989. By late September 47 bruins including 18 sows had been relocated in an area which included the Mount Rogers National Recreation Area with its 5,729 foot peak and the Wythe Ranger District, both in the Jefferson National Forest. All of Grayson County is now temporarily closed to bear hunting and so are portions of Pulaski, Smyth, Washington, and Wythe counties south of Interstate 81.

"We've had 10 or 12 complaints," said Walls, "and we've had to move three bears. Generally, though, people are enjoying the increase in bear populations. They call here and tell us about seeing them."

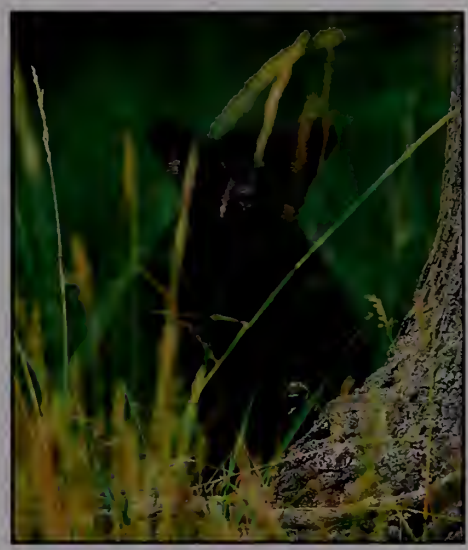
Richard Cocke, an assistant ranger with the Jefferson National Forest, echoed Wall's comments. "The response has been positive," he said. "We've been mostly onlookers in the project, but people call us and report sightings. 'Believe you've got more bear than you used to have,' they say. They seem to be enjoying them. We've had only one problem, a campground bear that had to be moved."

What does the future hold for southwest Virginia bear hunters?

Mack Walls is optimistic. For the present, hunting will be limited to the area north of Interstate 81 and south and east of U.S Highway 19. "The western and northern border is roughly the Clinch River," he said. But he feels the hunting territory can probably be expanded in four or five years. "Currently we plan to extend the stocking to those counties west and north of the Clinch River."

Mack Walls and his associates are getting help from other interested agencies. Biologists at Virginia Polytechnic Institute and State University are breeding a few bears in captivity and turning them over to the Game Department for release. "And both West Virginia and Tennessee are releasing bears close to our borders," said Walls. "We'll be trading some animals back and forth. Bears tend to roam. One problem bear we released in Smyth County moved to Hillsville in seven days. She was a 300-pound sow. Most of the bears we stock average about 150 pounds."

Tennessee biologists are using a slightly different approach. Instead of trapping the animals, they locate sows after they have gone into hibernation and move them to new dens while they are still asleep. Walls chuckles when he thinks about what the animals' reaction must be when they awake from their long sleep.



It is hoped that through the relocation efforts, bears will once again reproduce and populate southwest Virginia. Black bear cub (Ursus americanus); *photo by William S. Lea.*

The Virginia Department of Game and Inland Fisheries' regulations for controlling bear hunting are designed to help protect the female by opening the season late. However, to further protect relocated bears, each female has been tagged with orange earrings that are clearly visible to the hunter as he identifies his game. By passing up the orange-tagged bears and returning to the Department the aluminum tags found on any bear taken, the hunter can play his role in the return of the bear to southwest Virginia. □

Bob Gooch is an outdoor newspaper columnist and author of several books on hunting and fishing. He lives in Troy, near Charlottesville.

Targeted Counties Of Black Bear Relocation Effort

The Making Of A Man

This country's rich tradition of trapping is still turning boys into men with the lessons found in a marsh.

story & photos by Randall Shank

As we stepped to the edge of the bank and gazed over the expanse of Gleason Marsh on the Mattaponi River, six ducks flushed from underneath some cordgrass and took flight into the morning air. "Mallards," Gary said. We paused for a moment to watch the birds fly away, then he turned and said, "Let's go."

From mid-December until early March, 13-year-old Gary Upshaw is a boy with a mission. The young King William County resident spends most of his spare daylight hours hopping from one tussock to another along the creeks in the tidal river marsh near his family's farm. He travels in this wetland estuary with a single purpose: to find likely places to set his traps for muskrats.

Sometimes Gary travels alone, and on other days he is accompanied by his brother Willie, who is 10 years old. On weekdays during the trapping season, Gary is anxious to get off the school bus so that he can check his trapline and reset traps before darkness falls. On weekend mornings when many kids are either sleeping or watching television, Gary is pulling on his hip boots and heading for the marsh.

I tagged along with Gary and Willie last January while they checked and reset traps on Gary's muskrat trapline. Willie is in the process of learning about trapping, and when he gets a little bit older, he probably will have a trapline of his own. Walking a tidal marsh can be tricky, and in the cold winter months, dangerous as well. You need to know what you're doing. For someone so young in years, Gary has quickly developed an ability to move rapidly and safely in the marsh.

The first rule when walking in a marsh is to know what is walkable land surface and what is not. One missed step and what began as an enjoyable outing on a winter day can instantly become a miserable wet and cold experience. Marsh mud can be firm in one spot and "mucky soup" in another. Twice, I probed the creek running through the marsh to get a read on the water depth. Even at low tide, the creek was five feet deep. This poses problems when having to cross the creek, but Gary is not overly concerned. As we approached a bend in the stream he said, "We'll cross here." To me, all I saw were a few submerged sticks, but Gary explained that under the branches was a submerged beaver dam. "Always very sturdy," he explained. It was.

Gary marks the spot where he sets each trap with a bamboo pole. The pole also anchors the trap. At the entrances to muskrat runs, he will set between eight and 18 Conibear traps that are four and one-half inches in size. The traps are set and checked the following day. Along his trapping route near the edge of the creek or river, muskrats have established tunnels from the stream into the bank. These runs

enable this small rodent to enter the vegetative part of the marsh undetected by predators. The muskrat is then free to feed on the roots and stalks of various marsh plants.

By looking for droppings near a run, or for freshly cut tubers left by the muskrat, a trapper can determine whether or not a run is actively being used. Gary looks for holes in the marsh that lead to the stream. With the trap set in the water at the entrance of the tunnel, or in the tunnel itself, the muskrat swims into the trap where its head is caught in the trap. The muskrat dies instantly.

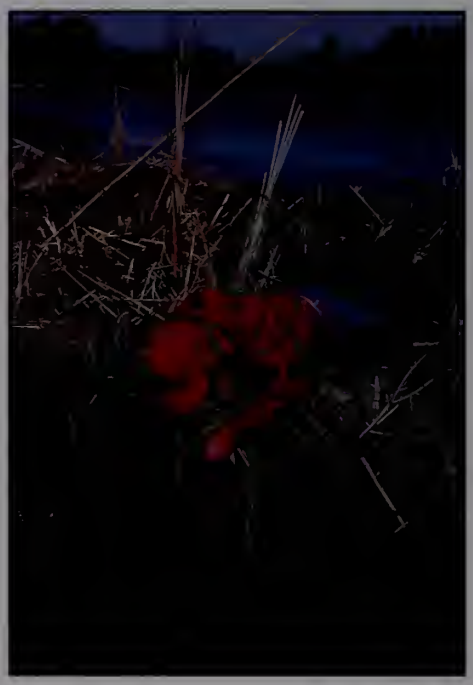
The first set we checked held a muskrat. Gary carefully removed the animal from the trap and noted that the fur on this particular animal was black as opposed to the more common brown color. Since black muskrat fur is rare, it is also more valuable.

We spent the next hour following the creek and checking the rest of the traps that had been set by Gary and five of his friends the day before. Gary had just turned 13, and for his birthday, his friends spent the night and accompanied Gary on his trapline route the following morning. Our second trap check yielded nothing. On the third and fourth stop we found muskrats. Unfortunately, an animal in the middle of the night had found one of the muskrats and eaten most of it. After examining tracks around the carcass, we surmised that a raccoon had been the culprit.

As we walked along the creek and the river, I was becoming more impressed with Gary's knowledge of life within the marsh. He almost always sees ducks on his outings, and occasionally a flock of turkeys, a deer, a bald eagle, or beaver. Earlier in the week, he caught a mink in one of his muskrat traps.

Since Gary can only walk and trap the marsh at low tide, he has to know the times during the day when the tide is moving. Many outdoorsmen who are not as attuned to the comings and goings of the river rely on printed tide charts for this information. Since Gary is on the river almost every day during the trapping season, he does not need a tide chart. He just knows what the tide

Gary Upshaw is a successful trapper because he understands the ways of the marsh, not just the ways of the muskrat.



is doing. At a young age, Gary has developed an intimate knowlege of one of the most productive ecosystems that nature has devised. A big part of Gary's life during the winter months ebbs and flows with the tide on the river that feeds the marsh.

Most young people become involved in an activity or learn a skill because someone older has taken the time to teach them what they know. Gary is no exception to this. His mentor has been his grandfather, P. M. Carter. When Gary was 11, his grandfather introduced him to trapping. Having trapped the same marsh that Gary now works, Mr. Carter has taken Gary on as his partner. All of the animals caught are skinned by Gary's grandfather and hung to dry in his garage until season's end. Mr. Carter does the dealing with the fur buyers, showing Gary by example how to strike a bargain.

All the profits from the partnership go to Gary, with a fair share to his brother Willie. Mr. Carter is satisfied to watch his grandsons succeed in an endeavor that requires a lot of work and one that brings them pleasure.

For the boys, the money is important, but the excuse to get out in the marsh is more of a reason to trap. Running a trapline is hard work, and any return for the effort is well deserved.

When I told Mr. Carter how impressed I was with Gary's knowledge of the marsh and trapping, he just smiled. "He has a lot more to learn." With his decades of experience, Mr Carter knows that not even he has learned all there is to know about the secrets of the marsh. "I think the marsh can be trapped out. We have to be careful how we utilize the resource. The muskrat population has to be managed, just like other wildlife species."

Times in Virginia are changing. Urban encroachment continues to move from the cities into the countryside. The farm bordering the marsh Gary now traps was sold within the past few weeks to a development corporation. I cannot help but wonder what is going to happen to that part of the river. With the increasing population pressures come all of the problems associated with more people living without wilderness at their back door. Fewer and fewer young people are growing up knowing what it is like to see a flight of ducks at sunrise or a turkey darting through the woods. In many cases the wildlife is still there, but because of the insulation of urban living, our children have not developed the skills to see what nature has to offer.

After spending a morning walking the marsh with Gary Upshaw, I cannot think of one single negative aspect of his experience in running a trapline. His adolescent energy is channeled into sloshing around in the mud and grasses of a tidal river marsh. At night he goes to bed early, exhausted from his time in the marsh. He has learned the lessons of the marsh; he has learned to be self-reliant, knowing that if he takes a wrong step or a miscalculated move, he immediately pays the price by being wet and cold.

Through the teaching of his grandfather, Gary has developed a skill that when practiced patiently and correctly, will pay off with a captured quarry. The dynamic ways of nature are discovered every day as he walks his trapline,

not knowing what new track or animal he is going to see. The trapline teaches him the value of the dollar, because trapping is not only a hobby for Gary, but also a business. Money earned from his effort is earned honestly and through hard work.

Finally, the trapline is teaching Gary something about relationships. By running a trapline, he is learning about the effects that outside influences have on the dynamics of a marsh. Storms, temperature changes, trapping, hunting, boat traffic, salinity, and a host of other factors are constantly altering the life in a marsh. Gary is learning more about these ecological relationships with each additional day that he spends in the marsh.

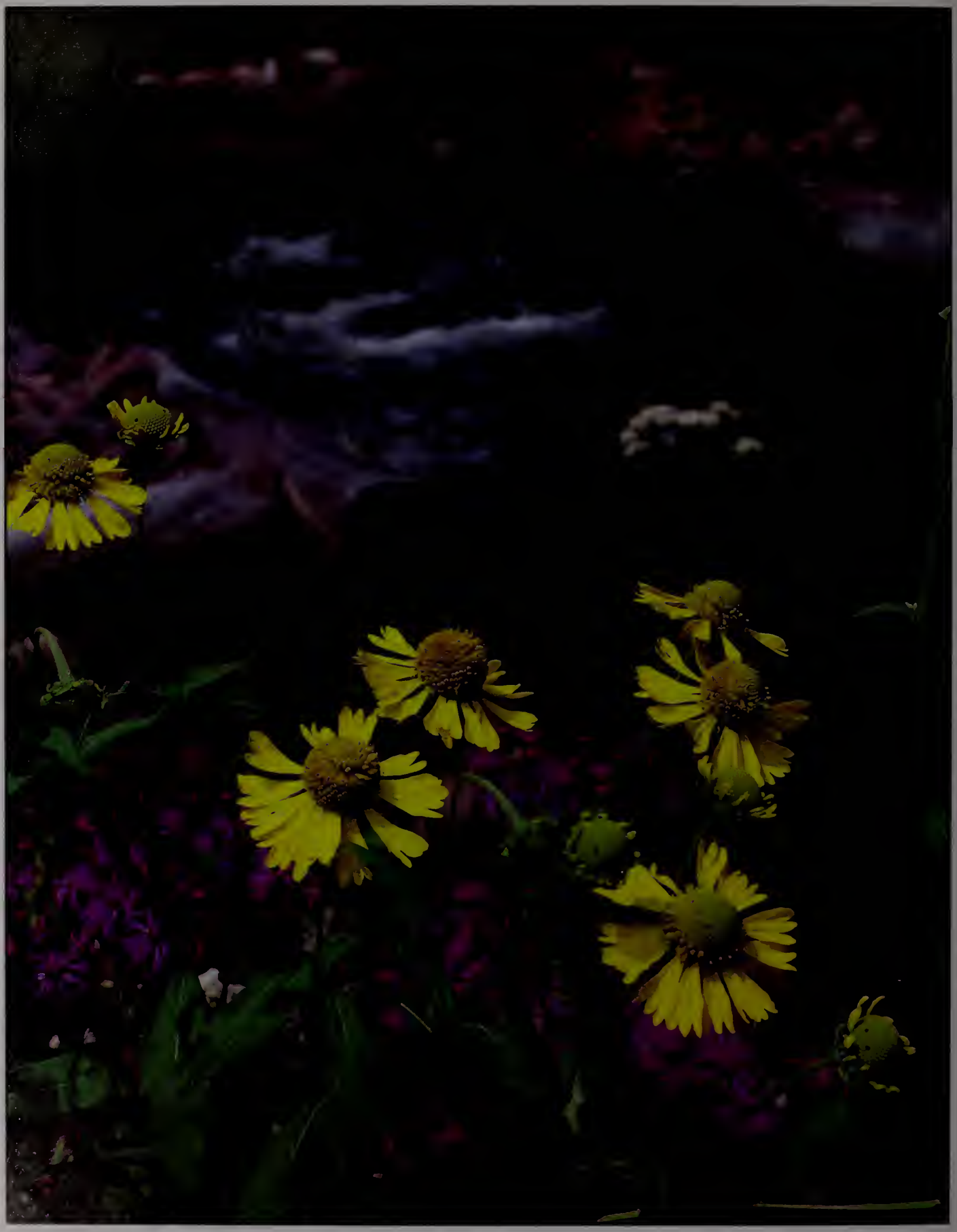
But the trapline is more than that. The marsh and the muskrats are ties that bind grandfather with grandsons and brother with brother. Like an invisible cord, the trapline is helping to strengthen the bond between two brothers who not only depend on each other in the marsh, but who will depend on each other for the rest of their lives. And for the brief fleeting moment of adolescence, when a boy makes that passage into manhood, the trapline is bringing a young man to a closer relationship with his grandfather, the memory of which will remain with him forever.

Above: Partners in the marsh, brothers Gary and Willie cement a friendship that will last a lifetime. Below: Gary and Willie Upshaw owe much of their skill in the marsh to their grandfather P. M. Carter, who taught them the art of trapping.

For Gary and Willie Upshaw, the marsh and the trapline is the place where their boundless energy can be absorbed and lessons taught which could never be learned in a classroom. The marsh and the trapline will give up an occasional muskrat, but in the long run, the boys are learning what it means to live. □

Randall Shank is an agricultural extension agent in King William County.

photo by Robert L. McKinney



Rebirth Of A Trout Stream

After more than 50 years of abuse, Grayson County's Fox Creek is home again to wild rainbows.

by Robert L. McKinney

In the early 1900s, the first loggers with their hobnailed boots, huge crosscut saws, and smoke-belching Shay locomotives stomped into Grayson County's primordially beautiful Fairwood Valley. They brutally stripped bare the surrounding mountains of vast stands of huge virgin fir and spruce, yanked up the tracks they had laid for their trains, and disappeared.

In their wake, they left a scene of destruction seldom duplicated in size or intensity by war, mining, or natural disaster. Wildfires raged through tinder-dry slash the loggers had strewn behind their saws, the hooves of near-wild cattle trampled what little vegetation remained, the precious thin layer of topsoil blew or washed away, and with every rainstorm the streams and rivers surged red and yellow with mud.

By the time the U.S. Forest Service finally acquired most of Fairwood Valley in the late 1960s as part of land acquisition for the new Mount Rogers National Recreation Area (NRA), nature had gone a long way toward healing—or at least covering up—the stripped and ravished mountainsides, but Fox Creek, meandering through the center of the valley, was still far from recovered.

Most of the streamside vegetation was gone, cropped to the roots by cattle or swept away by annual floods which roared down the valley unchecked. With little riparian vegetation to protect the stream's channel from erosion, Fox Creek spread out in all directions. Huge, flat stretches of water too shallow for trout to inhabit began to replace the deep pools and narrow riffles in which fish feed, reproduce and find shelter.

This shallow water, combined with the lack of protective shade, sent late summer average water temperatures skyrocketing toward 78 degrees F, the lethal maximum temperature for rainbow trout and nearly 20 degrees above their optimum of 60 degrees F. Low, hot, and filled with the dung of cattle, the once pristine Fox Creek actually began to stink.

Amazingly enough, a few trout, primarily rainbows, managed to survive these conditions and reproduce, but the breeding wild trout population steadily dwindled and moved farther and farther upstream. The native brook trout had already long ago retreated to the farthest headwaters of Fox Creek and into Lewis Fork, a small feeder stream.

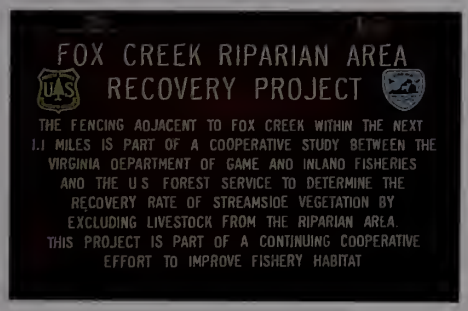
Hatchery-reared trout—rainbows, browns, and a few brookies—were stocked each spring, but the effort was admittedly "put-and-take." Even if they avoided anglers, few fish survived long enough to grow to more than a foot in length.

Luckily for Fox Creek, it was during the early 1980s that the Virginia Department of Game and Inland Fisheries began looking for a trout stream it could use to demonstrate stream rehabilitation techniques. The Grayson County stream was chosen from among many candidates for several reasons, according to Robert Wollitz, a Marion-based regional fisheries manager with the Department.

"Fox Creek had been a problem stream for years," he explained. "But," he added, "one of the big reasons it was selected was that it was on public land which belonged to the U.S. Forest Service." This meant the state would not have to deal with the often changing wishes of private landowners who might suddenly decide to pull the plug on the project for any number of reasons.

Once Fox Creek was selected as the demonstration project, Cecil Thomas, a district wildlife biologist with the Mount Rogers NRA, and Monty Seehorn, who is now a fisheries biologist in Atlanta, Georgia, began work on what would later become the "Fox Creek Management Restoration Plan."

photo by Robert L. McKinney



Given very limited funding, the planners decided to concentrate on the most critical 1.5 miles of stream. This mile-and-a-half section begins approximately 4.6 miles from the creek's source, at an elevation of about 4,000 feet above mean sea level. The entire stretch runs through heavily overgrazed land beginning near the NRA's Fairwood Livery riding stables and running downstream to just above the large waterfalls visible from Rt. 603.

The extensive plan, completed in 1984, set forth four main objectives:
(1) to increase natural vegetation to shade the stream,
(2) to lower the average daily summer water temperatures,
(3) to increase the number of pools,
(4) to decrease the amount of flat water.

At the beginning of the project, the pool/riffle/flat water ratio was 30%/20%/50%, in contrast to the optimum mix of 50% pool, 45% riffle, and 5% flat water needed by trout. A large portion of the existing flat water was the result of the "100-year flood" of 1977, which had caused the stream to form a huge gravel bar that blocked the flow and caused the stream to spread out over a wide area.

Another statistic revealed by initial stream studies, most of which were done by the Department, was not only the extremely high late summer water temperatures but the wide fluctuations of those temperatures over a period of a few days or even hours. Wide swings in water temperatures often cause as much, or more, stress to trout as do steady high temperatures.

During the late summer of 1985, for example, when the stream's average water flow of 12 cubic feet per second (CFS) dropped to only 5 CFS, spot water temperatures occasionally reached 82 degrees and often varied as much as 10 degrees over a 24-hour period. In 1986, spot water temperatures were recorded as high as 85 degrees in some flat water areas.

The management plan called for a total of 83 in-stream structures, primarily to protect the stream's banks from further erosion, to narrow and deepen the channel, and to create additional riffle and pool areas, all of which would greatly reduce the percentage of flat water.

The first structures were actually placed in Fox Creek during the summer of 1983 and additional structures are still being added each year as ever tight federal funds become available to pay for materials and labor. The physical, on-site work has been done by Forest Service employees, and the stream sampling and much of the technical expertise has been supplied by Department fisheries experts.

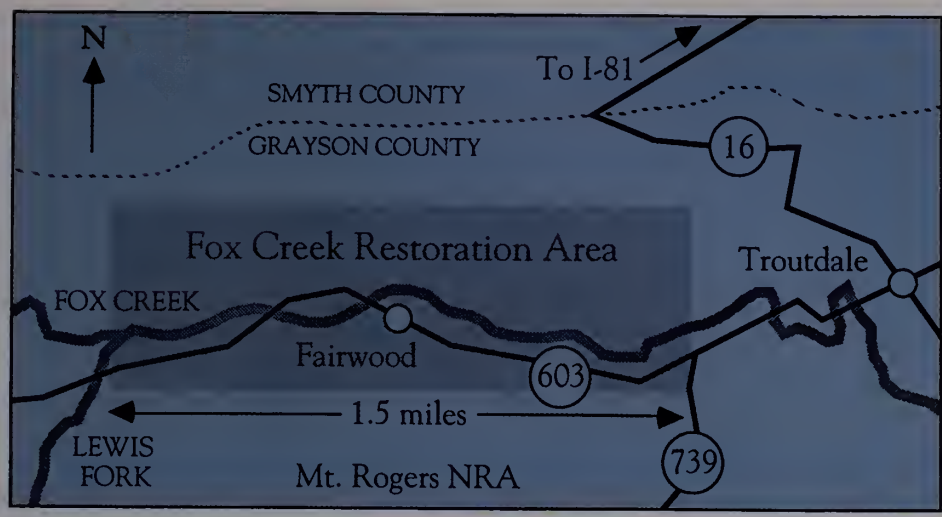
Building the structures presented its own unique set of problems, in addition to the backbreaking labor of working with heavy logs and rocks. For example, hemlock was chosen for the in-stream structures because it has a long life expectancy when saturated with water and, unlike treated logs, contains no toxic chemicals. Using hemlock, however, meant that the logs had to be harvested several miles from Fox Creek on U.S. Forest Service property, then loaded onto flatbed trailers and trucked to the site. Once there, each log, some weighing as much as a ton apiece, had to be sunk into position by hand, then drilled so that long pieces of iron bar could be driven through them and into the earth for anchors.

These log structures included single wing and double wing deflectors, channel constrictors, cutter logs, wedge and K-dams, and others, all designed to narrow the channel, protect banks,

Game Department fisheries personnel and the U.S. Forest Service worked side by side on the Fox Creek restoration project. Below they are working on the construction of a channel constrictor; photo by Bob Wollitz.

and change the pool/riffle/flat ratios. As often as possible, the structures were also designed to reduce stream sedimentation and provide shelter for fish.

The huge gravel bar mentioned earlier presented a particularly knotty problem for the planners. Unless the bar was somehow removed, it promised to continue its downstream movement and cause further siltation and destruction of trout habitat. In fact, during the fall of 1983, the bar had already buried two structures installed that summer. Removing the bar, however, would necessitate the use of heavy earth-moving equipment which, itself, would cause temporary siltation of the water.



After much consideration, the planners decided to go with the latter of the two evils. A large front-end loader worked for approximately half a day to cut a deep channel through the gravel bar. The banks of the new channel were quickly stabilized with rocks, log structures, and thick plantings of black willow and sycamore saplings.

Despite a number of biological and engineering problems which had to be overcome, the major roadblock to the Fox Creek restoration has been the shortage of funds. Thomas, Seehorn, Wollitz, and the other planners and consultants calculated that the total cost, measured in 1984 dollars, would be approximately $59,000. With inflation, the need for additional work, and the other unforeseen factors, that figure is now closer to $90,000.

Lack of funding was primarily responsible for having to wait until 1987 to fence the stream from the cattle that continued to destroy riparian vegetation and cause bank erosion. The cattle, belonging to local farmers, are allowed to graze in Fairwood Valley as part of the Forest Service's multiple-use mandate, as well as to preserve the open qualities of much of the Mount Rogers NRA.

The fence, complete with fisherman access stiles, has already proven its worth in preserving the streamside vegetation and preventing erosion. Not only are the bushes, weeds, and grasses thriving inside the fenced area, they are reproducing and spreading onto bare, grazed ground.

Other forms of wildlife in addition to trout are also benefitting from the protected area. Songbirds, butterflies, insects, rabbits, squirrels, and groundhogs are among the many species that have quickly established themselves along the banks of the creek.

"A project such as this benefits everything," stated Wollitz, "not just the game species."

Although Fox Creek continues to be stocked annually with some 3,400 rainbow, brown, and brook trout by the Department, there is a growing possibility the stream will eventually be converted to a wild stream in which the trout can maintain their own numbers. Several things can make this possible. First, of course, will be the greatly improved trout habitat brought about by restoration. Secondly, as streamside vegetation increases, Fox Creek will become more "difficult" to fish, therefore attracting fewer bait fishermen whose only goal is to "limit out" while at the same time attracting additional fly fishermen who more often subscribe to a policy of catch-and-release.

Anglers, on the whole, have been very supportive of the attempt to rehabilitate Fox Creek. "We thought they might object to fencing in the creek which makes it more difficult to fish, but that has not generally been the case," commented Larry Grimes, the Forest Service's area ranger in charge of the Mount Rogers NRA.

There is the possibility that Fox Creek might someday join the ranks of Virginia's other fine special regulations streams which limit the types of lures allowed and greatly restrict the size and number of trout that may be taken, but that is in the future. For the time being, Fox Creek will remain in the state's stocking program and will offer put and take fishing in addition to a breeding population of wild rainbows.

The ongoing success of the Fox Creek restoration project can be attributed to many factors, not the least of which has been, and is, the close cooperation between the U.S. Forest Service and the Virginia Department of Game and Inland Fisheries.

"This has been a cooperative project all the way," stated Robert Wollitz, who emphasized the value of state/federal cooperation.

Larry Grimes agrees. "We have a fine working relationship with the state," he said. "Not just on the Fox Creek restoration, but with other projects as well. For example, our departments have cooperated in building fishing facilities on Bear Tree Lake for handicapped fishermen, and on a number of other things."

After years of neglect and abuse, Fox Creek is at last returning from the brink of near total destruction to a valuable cold water resource. It has taken a lot of money, faith, cooperation and hard work by a lot of people. But, it's been well worth it. □

Robert McKinney is a full-time outdoor writer and novelist based in Sugar Grove.

Of Mice And Men

AND OTHER MAMMALS

As a result of natural phenomena the numbers of Virginia's mammals have changed over time. But since we landed at Jamestown, man has accelerated this process—for better or worse.

by John Pagels

It is sometime in the year 1600. You are among the first Europeans to reach Virginia. You feel the greatness of her beauty that extends from ocean beaches to the mountains, and as a naturalist, you are intrigued by the variety of plants and animals. You begin to catalog Virginia's mammals; your notations include a tiny shrew and the bison. Your list eventually grows to about 70 species. If you were able to look ahead, you'd sadly learn that over the next almost 400 years, nine or so of our native species, some of which earlier had statewide distributions, would be removed from your list of Virginia mammals. But a modern list reveals not 70 less 9, but more than 70. What happened?

The coyote is finding the changing land use patterns here favorable. Coyote pup (Canis latrans); *photo by Rob Simpson.*

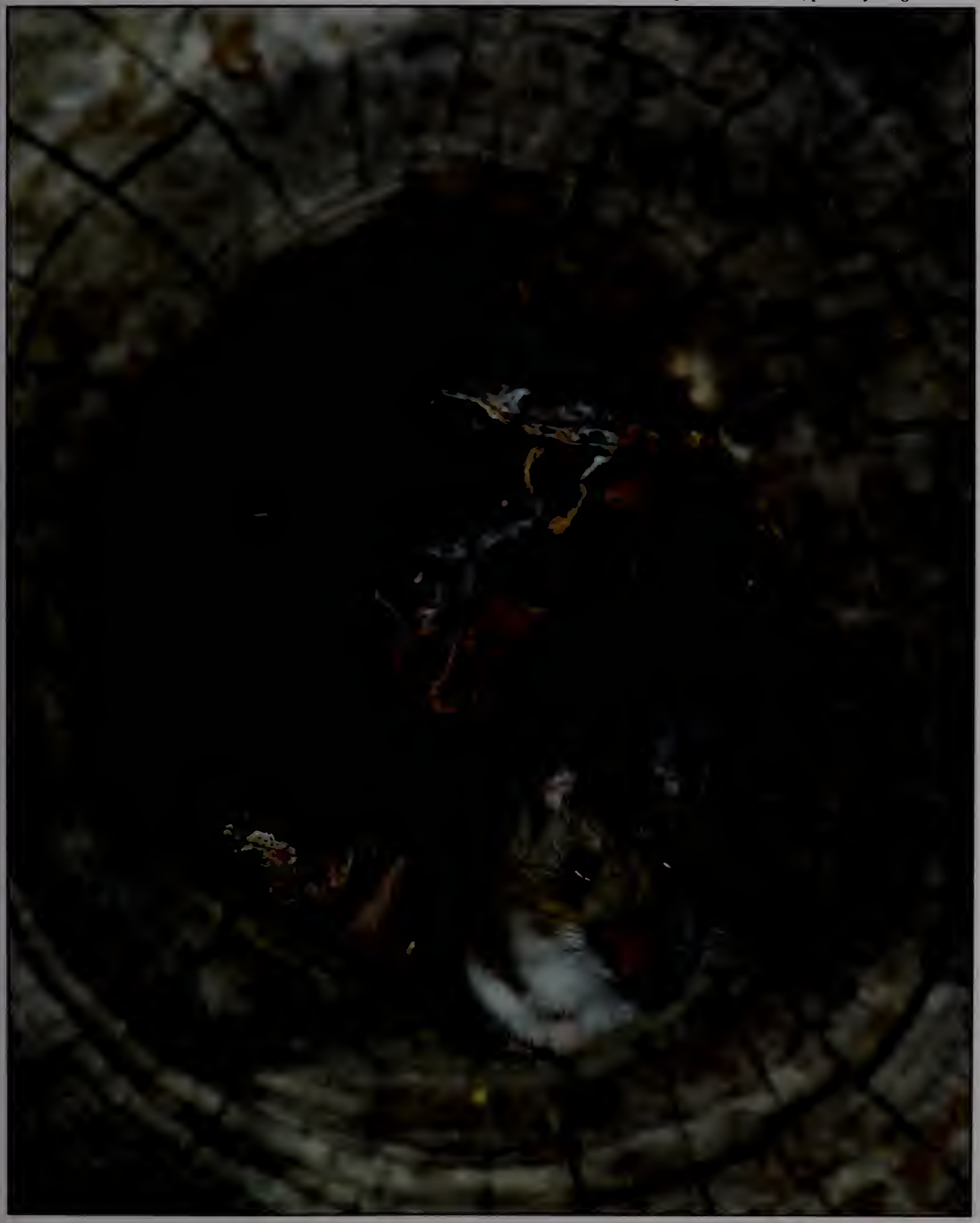
Actually there are many reasons for this change in the numbers and kinds of Virginia's mammals. Either directly or indirectly, however, man has been responsible for recent changes in the composition of our fauna.

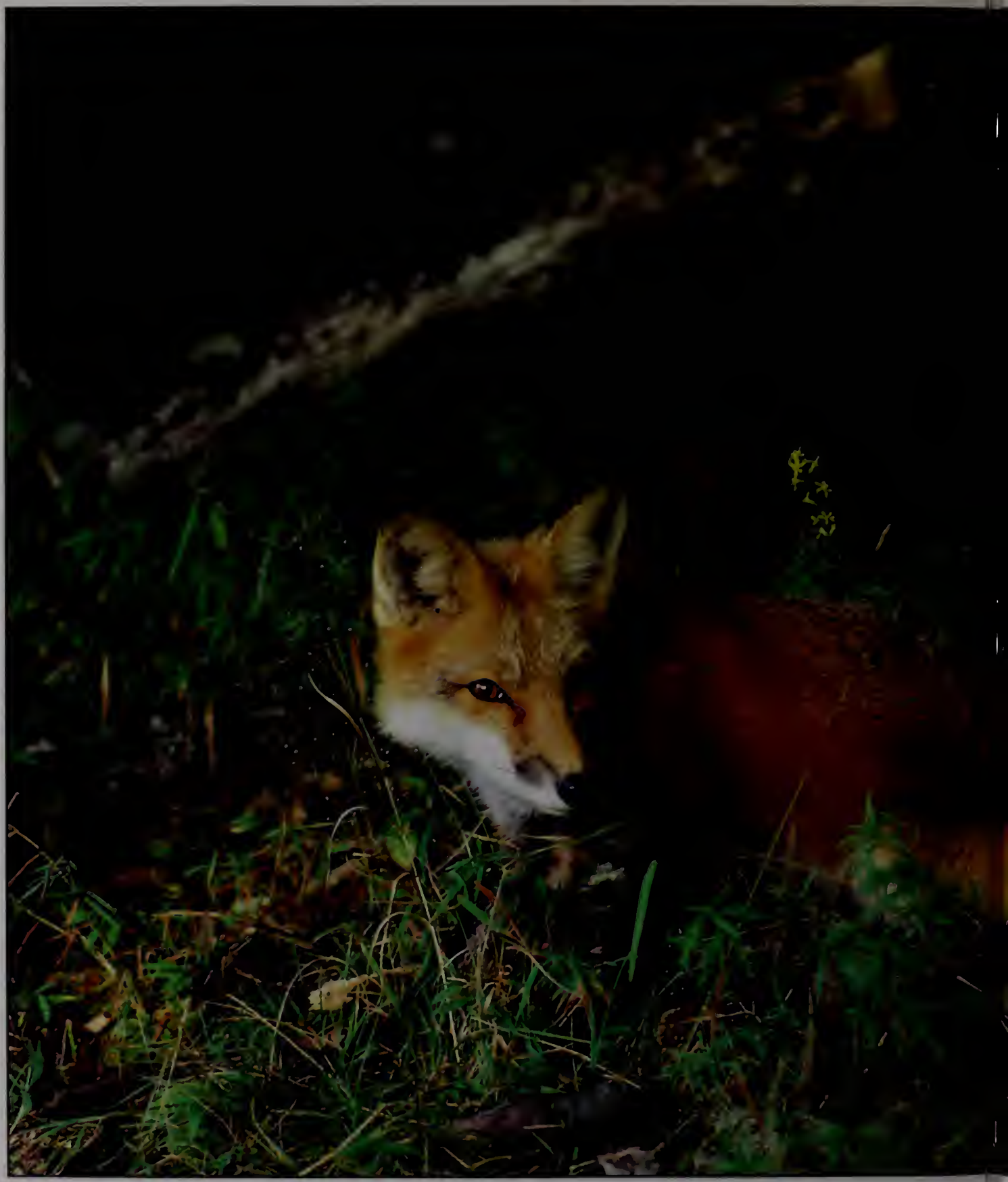
Man has directly introduced six of our new mammalian inhabitants. Three of the six introductions, all from the Old World, were accidental stowaways on ships, and if ever we were to make a better mouse trap, or rat trap, it would be because of them. One, the long-tailed, high climbing black rat, isn't a great problem and a main reason its numbers stay low is because it doesn't compete well with the ubiquitous Norway rat. The Norway rat, a resident of Virginia for more than 250 years, is the one we know better as the barn rat or sewer rat, and a host of other less complimentary names. Causing millions of dollars worth of damage annually, the Norway rat presumably is loved by its mother and the people who manufacture and sell rat traps and poisons. But then, the rat is not all bad. In its proper place (a cage), and form (usually albino), throughout the world the Norway rat is the one best known as the laboratory rat.

A cousin of the rats, the house mouse, is the third unintentional addition to our mammal list. To a student of mammals such as myself, it's humorous at times, if not frustrating, that to so many people the house mouse, with its pointed little face, beady eyes and long scaly tail, is the mouse of Virginia. Few people realize we have numerous native species, including such delightfully named species as the woodland jumping mouse, white-footed mouse, golden mouse and harvest mouse. Be that as it may, the house mouse is also of great economic significance, not so much because of the damage that it does, or the grains and fruits that it consumes, but because of the contamination it produces with the little signs of its presence it leaves behind.

The other three mammalian introductions, the nutria, black-tailed jackrabbit and the Sika deer, were not accidental but intentional introductions—although one, the nutria, could perhaps be considered "quasi"-intentional. The nutria, a large South American beaver-like rodent now found in southeastern Virginia, especially the Back Bay area and now west into the Great Dismal Swamp, was introduced into many parts of the world as a fur farm animal. In some areas nutria became established in the wild after escaping, as happened in Louisiana when a hurricane destroyed fencing and released them into nearby marshes. In other instances, nutria were simply released from fur farms when families who had invested in them lost life savings on a "sensational" market that never materialized. I'll never forget as a boy seeing a caged pair of these at the Saginaw County Fair in Michigan. If

The native deer mouse (Peromyscus maniculatus) ***below*** *is closely related to the newly-arrived prairie deer mouse; photo by Greg Scott.*





The red fox (Vulpes fulva) *now at home in the open woodlands and fields of Virginia is a recent arrival, probably the result of a range expansion, photo by William S. Lea.*

you had a thousand or so dollars, you could get the pair and instructions on how to construct necessary buildings for your fur farm, buildings that included running water, heat and other features. About 15 years later, as a student in Louisiana, I observed hundreds killed on the roads. Additionally, I seem to recall a 25¢ bounty to help get rid of them. Ironically, too, in Virginia last year, a nutria pelt brought $1.50, versus about three times that much for native muskrat. The nutria has requirements similar to our much smaller native muskrat, and where both exist together, muskrat populations remain depressed.

Rather than its fur, the nutria is better known today for damaging crops nearby its watery haunts, along with drainage systems and natural plant communities such as stands of cattails. On the other side of the picture, however, nutria are "good eatin'."

It seems we're always trying to improve on what we already have. The black-tailed jackrabbit, actually a hare that's native to the Southwestern U.S., was introduced to the Eastern Shore for hunting and as a curiosity. It proved to be an unwelcome addition, but in spite of hunting in earlier days, poaching today, and overwashes during storms, it is doing well on Cobb Island on the Eastern Shore.

The Sika deer, a native of Asia and more closely related to elk than our white-tailed deer, was also introduced for sport. With a relatively small population on Assateague Island, it seems to have had little adverse effect on our native wildlife. But even that can be questionable. The Sika deer, somewhat a habitat generalist known to consume many kinds of plants, including cultivated forms and young trees, has been introduced into many parts of the world. Its numbers are known to sometimes reach pest proportions and it has been known to displace native deer in other parts of the world. Could it be capable of displacing our native whitetails?

Indeed, the introduction of species is largely frowned upon by biologists. Introductions can have, and usually do have highly unpredictable and hazardous results.

Introduced to the Eastern Shore for hunting and curiosity, this Southwestern native has proved to be an unwelcome yet persistent inhabitant on Cobb Island. Blacktail jackrabbit (Lepus californicus); *photo by Rob Simpson.*

And it's not limited to mammals. Think of all the pesty things that were introduced, both intentionally and unintentionally, which now cause so many problems to our native plants and animals. Further, we can only read about what Virginia looked like before we introduced ourselves.

Forests of many types characterized the native scene in Virginia prior to the arrival of Europeans. Pine forests dominated the southeastern portion of the Commonwealth, and large expanses of oak-hickory forests were evident in many areas. To the west, chestnut and northern hardwoods prevailed at high elevations in the mountains and at highest elevations, there were broad expanses of red spruce. There were openings, though; not everything was forest. Marshes, balds, bogs, wet meadows, and successional stages created by such factors as blow-downs and natural fires are among the habitat types that were all part of the natural scene.

Today, we've opened the countryside even more by building rights-of-way for powerlines, highways, railways, fighting wars, strip-mining, clearing for fields and pastures and cities and towns, impounding streams, and timbering to get lumber to build cities and towns. We construct fire trails to protect the remaining timber or trails for our vehicles so that we can enjoy the forests, and we make wildlife clearings.

As a result of our manipulations, habitat may be created for a new species—and that's in part why the naturalist of 1600 would find a longer list in 1989. We find on our new list at least four wild mammals that got here on their own, but all seemingly took advantage of the suitable habitat that we built for them. It is very unlikely that the red fox, at home in open woodlands and fields and now found throughout the Commonwealth, was present until well after the arrival of early Colonists. We know that in an attempt to have fox hunts as they did in England, the red fox was introduced into much of the eastern United States from Europe in the 18th century. However, evidence indicates that those stock did not survive and that our red fox is the result of range expansion into new favorable habitat by American red foxes. The coyote, a cousin of the red fox, is apparently another recent arrival and is now at home in several of our mountainous counties and on the Eastern Shore. Much more common in westerly, open parts of the United States, the coyote is little troubled by humans and is well known for its resourcefulness. Its resourcefulness may lead to an occasional meal of a domestic animal, notably sheep. Although a recent arrival, the coyote is now viewed badly by some, notably where the unprotected fingers of civilization, perhaps bearing snacks, reach for the the remaining provinces of wild animals.

Two other mammals that reached Virginia on their own within this century were the cotton rat and the prairie deer mouse—and they came from different directions. The cotton rat, much more at home in the deep South, was first collected in Virginia in 1941 near the North Carolina border. It has subsequently been found in much of south central Virginia and north of the

James River near Richmond. The cotton rat is at home in overgrown fields and seems to relish patches of honeysuckle—yes, introduced Japanese honeysuckle. Although other factors may have helped, creation of suitable habitat and avenues for range expansion undoubtedly played a role in the northward movement of this mammal.

The prairie deer mouse provides the most dramatic story, perhaps one about a long trip along the Ohio and Pennsylvania turnpikes, then south along I-81. Centered in the prairie states, it was not collected as far east as Ohio until 1909, and had been reported for West Virginia and Maryland by 1949. The prairie deer mouse was first collected in Virginia in 1960. Although it certainly didn't fly in, the site of the collection was, you guessed it, a grassy and weedy field at Dulles International Airport. But the prairie deer mouse didn't stop there. In the early 70s it was collected near Harrisonburg, and in the 80s near Lexington. Watch out, Roanoke!

Another story, however, is the reintroduction of a species into an area from which it had been lost for some reason. In that respect, one of the more notable stories has to do with the beaver, a native mammal that played a more important role than any other animal in the exploration of North America.

Certainly the beaver was on our mammal list in the year 1600, but as a result of exploitation, indeed, the lack of trapping laws and seasons, the beaver was completely extirpated in Virginia by 1911. As a result of a restocking program initiated in the 1930s with animals from Michigan and Pennsylvania, and modern game management practices and laws, the beaver is again common in Virginia.

We were able to put the beaver back on our mammal list, but not all reintroductions work. The story about the loss, return and loss of the elk includes the kinds of horrors that result from introductions. The elk was apparently widespread in Virginia when the Colonists arrived, but as early as 1781 Thomas Jefferson noted although the elk still existed in Virginia, its numbers were smaller. By 1855 there were no more elk in Virginia. A restocking program was initiated by the then Game Commission in 1917 with elk from Yellowstone National Park and by the early 1920s there was a population in the mountains estimated at about 300. Hunting seasons reduced the numbers of complaints of crop damage, but also reduced the herd to a point where an additional 40 or so were brought in from Yellowstone in 1935. The elk held their own until the 1960s when, apparently the victim of a lethal parasitic nematode, their numbers began to drop.

Where did the lethal parasite come from? The story is linked to deer. The white-tailed deer was nearly extirpated from mountainous portions of the Commonwealth by the late 1800s. In the early 1950s white-tailed deer were reintroduced into the mountains. Deer are the primary host of the parasitic nematode and unlike elk, show little overt damage from the parasite. Several species of land snails are the intermediate host of the nematode which reaches the snails via larvae that are passed in the deer's feces. Subsequently, deer, elk and related forms become infected when they accidentally ingest the infected snails that have crawled onto the vegetation where the animals are grazing. By 1974, the last elk was gone from Virginia, and the chapter in the attempt at elk reintroduction closed for good.

It is well established that the plants and animals present on earth today represent but a small fraction of all the forms that have ever existed. Remains of now extinct peccaries, giant ground sloths, squirrels, a bear and a tapir are among fossils known from Virginia.

However, regardless of natural extinctions and shifts in the distribution of fauna and flora that may have resulted from climatic changes, we cannot help but be impressed by the influences that man has had in altering the numbers and kinds of mammals that are known in Virginia.

We know that as a result of our activities (and not all had to do with habitat) there have been many tradeoffs. I suppose we all have different ideas as to whether it's better or worse now than in 1600. In addition to the new arrivals and how they got here, certainly we have many more white-tailed deer and cottontail rabbits than we did back then. Too, the harvest mouse, meadow vole, and the least shrew, all forms much more at home in fields than in forests, must be doing much better now than in the past. But, just for a moment, and I know it will never happen, wouldn't it be neat to be able to see a mountain lion and her cubs instead of house cats along I-64? Or to again see a small herd of elk instead of only cattle in a field in Bath County? Or one gray wolf insted of a pack of stray dogs? Or to round a bend and see bison swimming instead of ponies? □

John Pagels is a biologist at Virginia Commonwealth University who specializes in Virginia mammals.

American elk (Cervis canadensis) *were once common in Virginia; photo by Rob Simpson.*

AUSBAND'S
HUNTER'S CHRISTMAS
1989
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4.95
S.S. DUCKOY
POWER LINE
FLARE
FREEZE-A-FISH!
FAF-1
FRESH!
(Sort of.)
OUTDOOR STORY
SCORECARD
Calculator
CHANTS FROM
BE HAPPY!

Gifts Of A Different Color

Wondering what to get your sportsman (or woman) for Christmas? Dream on.

by Steve Ausband

illustration by Jack Williams

Those of you with sportsmen on your Christmas lists are fortunate shoppers, since outdoorsmen (and women) are generally very easy to shop for. Almost all hunters and fishermen live in constant need of equipment or clothing—boots, pliers, knives, hats, coats, coveralls, shooting glasses, gloves, waders, briar-proof pants, insulated underwear, popping bugs, Hopkins' jigs, and anything in either blaze orange or camouflage. I have never met a reloader who had enough Winchester AA hulls or a duck hunter with enough good decoys. (There is no such thing as "enough" good decoys. "Enough" is not a finite number. For practical purposes, however, "enough" means however many the hunter can justify storing.) On the more expensive side, the shopper can consider, say, graphite fishing rods, gore-tex parkas, and, of course, shotguns.

If all this seems too ordinary, however—if you have gotten tired of giving the same old things year after year, or if you are looking for something really different for the outdoorsman—then perhaps you need to consider some of the specialty items listed below. These are not generally available, even from the larger mail-order places, but they make extremely functional and unusual gifts when you can find them.

1
Freeze-a-Fish and Freeze-a-Bird

These extraordinarily functional gifts come frozen in dry ice, ready to be taken along on a fishing or hunting trip for those occasions when the sportsman has no luck. Simply remove "Freeze-a-Fish" or "Freeze-a-Bird" from its container, allow to thaw, and arrange naturally in the bottom of the ice chest or in the game pouch of the hunting coat. Items are entirely edible (except for feathers and scales), and can be cleaned and prepared exactly like their wild counterparts.

FAF-1 (Rainbow Trout Package); FAF-2 (Bass Package); FAB-1 (Quail Package); FAB-2 (Mallard Package). Shipped two fish or birds per package, except FAB-2 which contains one drake mallard. Specify package by order number. Each package $19.95 from Savetheday Enterprises, Chicago, IL.

2
Outdoor Story Scorecard Calculator

A must for the hunter or fisherman who finds himself telling the same tale over and over again to the same people. You need never see glazed eyes and heavy eyelids again when you begin a story, "Let me tell you about the time I saw a . . ." Each Scorecard Calculator has enough space for entry of 200 stories and 50 names of potential listeners. To operate, simply select a story (number 132, for instance), and turn the dial to position that number next to the name of the listener. Calculator will respond either, "No way" or "Go for it."

Each calculator $4.95 from Vital Interests, Atlanta, GA.

3
Stump-a-flage Disguise Kit

Blends in with any background in wooded terrain. Ideal for squirrel hunters, archers, and waterfowlers. Simply pull the stump sections over legs and torso, cover arms with genuine wood-grained "limb-a-likes," and arrange artificial moss and fungi to obscure face and neck area. So effective that one hunter was almost gathered for firewood by a troop of Boy Scouts.

Comes in three sizes. "Short Stump" for hunters under 5′7″; "Standard Stump" for hunters 5′7″ to 6′3″; "Dead Tree" for hunters 6′4″ and over. Please specify. $55.00 from Stageart Productions, Fair Oaks, VA.

4
The Duckoy Boat

The ultimate craft for the waterfowler, and the ultimate decoy at the same time. Each "Duckoy" duck boat is a functional, seaworthy vessel made

in the form of a gigantic decoy. Sliding hatches allow shooting horizontally or vertically. Handy shelves inside hold shells, thermos, lunch, etc.

Two models. "Duckoy I" holds one hunter, maximum 3 hp outboard. "Duckoy II" holds two hunters, or one hunter and dog. Maximum 6 hp outboard. Both boats available in Mallard, Scaup, and Sea Duck configurations. "Duckoy I" is $1995; "Duckoy II" is $2550. Creative Craft, Miami, FL.

5
Flare-a-Duck

Lightweight, floating, artificial blind contains two inflatable plastic hunters with hard rubber shotguns. Very realistic detail. Can be positioned anywhere on lake where you do not wish to be. Since, as everyone knows, ducks avoid duck blinds, the "Flare-a-Duck" system can be used to change flight patterns, influencing ducks to pass over hunter on shoreline or in "Duckoy" duck boat. Recommended use is three "Flare-a-Duck" blinds for each "Duckoy." Blinds are $49.95 each from Creative Craft, Miami, FL.

6
Working Gull

For bluefish fishermen. Radio-controlled seagull wheels, dives, and emits shrill feeding call. Good saltwater fishermen have always known that schools of hungry bluefish and other voracious species gather underneath diving gulls. The only problem up to now has been getting the birds to dive when you were fishing. Now modern technology has solved the problem. "Working Gull" runs on a small gasoline engine turning a propeller on the bill. Radio communication lets you control engine speed while executing banks, climbs, dives, and swoops. Draws huge schools of hungry bluefish, as well as other gulls. Also works on striped bass in inland reservoirs.

Order "Working Gull" for blues and most other species; "Working Tern" for Spanish mackerel. $175 from Working Gull Mfg. Co., Smith Island, VA.

7
Bogus Power Line

A kit for dove hunters. Veteran dove hunters know that a mediocre grain field with a power line over it will often outdraw a field where the corn is ankle deep. This artificial power line lets you convince doves that your field is the place they want to be. Installs in minutes without the aid of special tools. Lightweight fiberglass poles mount in special pods (concrete-filled tractor tires) which can be rolled in place. Wire comes in basic black only, 100 feet to a roll.

Basic kit is $189.50 from Hunter's Helper, Waycross, GA. Recommended accessories include dove decoys (six for $19.95) and hernia truss for use after rolling pods in place. (One sided truss, $8.95; two-sided truss, $12.50.)

8
Positive Attitude Outdoor Tapes

Get an entire collection of these confidence tapes for the outdoorsman. Ideal for use in the field to encourage constancy and reduce pain. Tape #1 is for the early-season bow hunter. It features soft music much like that used by oral surgeons during root canals and other operating procedures, with subliminal voices whispering, "Those mosquitoes won't bite you," and "Your legs will stop cramping in just a few seconds," and "Being overheated is only a state of mind." Tape #2, for the duck hunter, features mind-control chants by Tibetan monks, who have learned how to stay warm and happy while submerged up to their chins in ice water. It also has encouraging reminders of how exciting life is when it is lived intensely.

Send for free catalogue of available tapes. Each tape is $7.95 from William E. ("Buck") Stone Enterprises, Orlando, FL.

9
Hunter's Ambience
(Off-Season Conditioning Habitat)

This system can be installed in any room in your home, allowing the hunter or cold-weather fisherman to keep in shape for his favorite sports in the summer months, or "harden up" by intensifying training immediately before the season begins. Complete unit includes giant fan, ice-water bath for feet and hands, uncomfortable stool and electrically-operated chilling hat which drips icicles down the neck. Comes with 56,000 lb. air conditioner. Auxilliary summer season kit converts basic unit for use by hot-weather sportsmen. Features 40,000 BTU heater and one million anopheles mosquitoes. Same uncomfortable stool as in winter season kit may be used.

Winter kit, $569; auxiliary summer kit, $225. Get both for $700 and save. Hunter's Ambience Climate Control Systems, Golden, CO.

In choosing this list of possible gifts for the hunter or fisherman on your list, I have tried to cover a wide range of interests and a range of prices from under $10 (The Story Calculator and the Outdoor Tapes, for instance) all the way up to the "Duckoy II" duck boat, which retails for over $2500. As you can see, there is no shortage of unusual gifts for the outdoor sports enthusiast on your list. While such gifts are not for just every gift-giver, those wanting to offer someone a genuine surprise on Christmas Day could hardly go wrong with any of the items included here. Imagine, if you will, the truly unique look of holiday cheer on your loved one's face as he realizes that his "Hunter's Ambience" training system will allow him to prepare for October's bow season all through January and February, and that you've even given him his own supply of easy-to-feed mosquitoes for the ultimate in realistic training. What can you say about a Christmas gift like that, except maybe, "Ho-Ho-Ho?" □

Steve Ausband is the chairman of the English Department of Averett College in Danville, and is a frequent contributor to Virginia Wildlife.

Editor's Note: Warning! Don't embarrass yourself by calling or writing to the companies Steve Ausband has described above. The editorial staff already did, finding the items real only in the mind of our author. Maybe next year his dreams will come true.

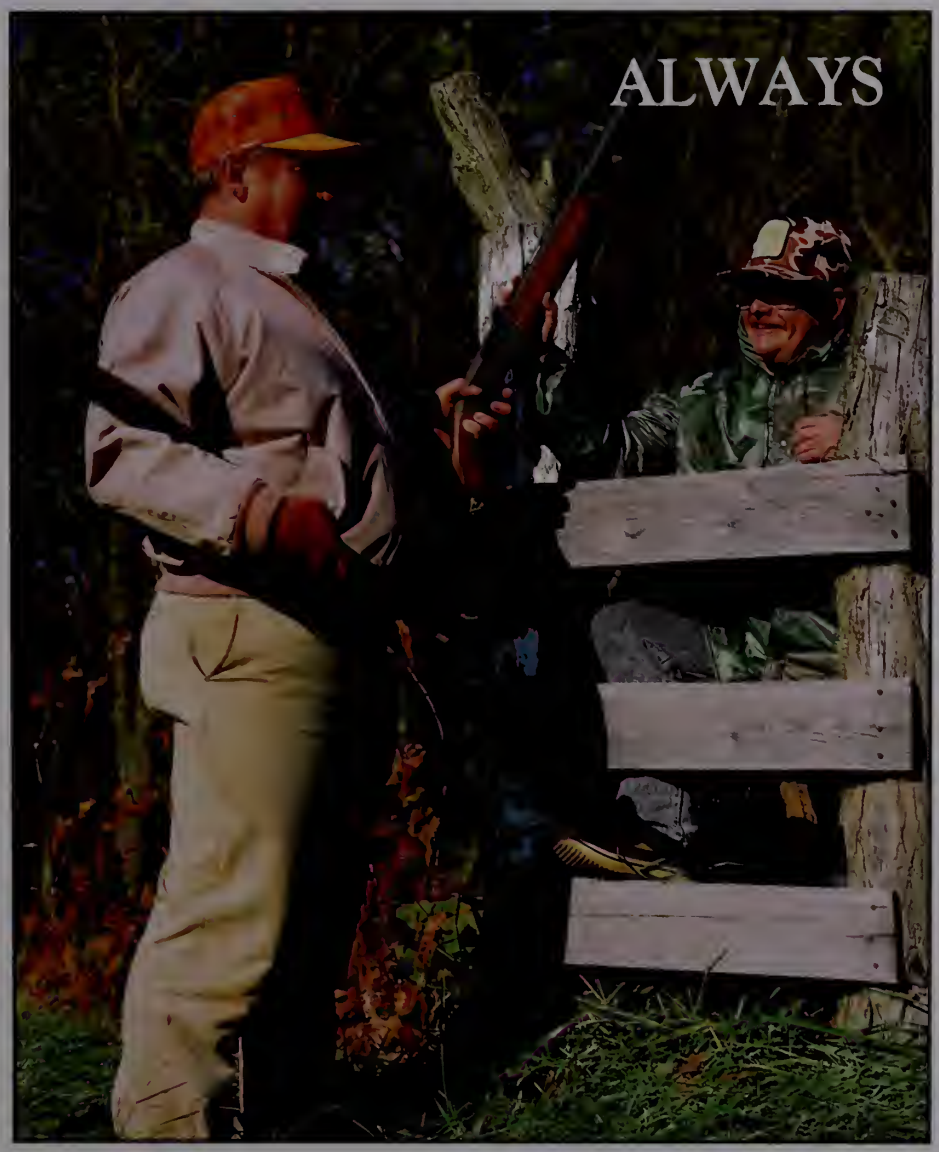
HANDLE WITH CARE

Firearms safety must be the first priority of any hunter picking up a gun.

by Steve Ausband

If you have read Robert Ruark's *The Old Man and the Boy*, a novel about growing up amid hunters and fishermen in a sleepy little Southern community, you may remember Ruark's description of his grandfather's gun safety lesson. The old man had lectured endlessly about always pointing the muzzle in a safe direction and always checking the breech, but he drove the lesson home one day by pretending to unload the boy's shotgun, handing it to him, and instructing him to "snap her dry at that pine cone." He said he just wanted to see how the kid mounted the gun. The resulting roar and recoil scared the young Ruark so badly he almost dropped the gun, but he never forgot the lesson. You check the breech *every time you pick up the gun*, and you never, even for a half second, let the muzzle point at or even swing past anything but the earth, the sky, or the intended target.

I don't remember my own instructor in gun safety—my father—ever palming a shell and slipping it back in the gun just to scare the daylights out of me, but I do remember being scared of his disapproval if I forgot the tiniest point of safety or etiquette. His rules were simple. There were three big ones and a half dozen smaller ones; once I had demonstrated that I had the first three down cold I was treated as more or less trustworthy, and I got to handle guns enough to start learning the other six. The big three, though, were absolutely ironclad.



ALWAYS *unload your shotgun, keep the action open, and hand it over a fence to a partner. Never climb over a fence with firearm in hand; photo by Virginia Shepherd.*

ALWAYS *watch the muzzle of your firearm. Keep it pointed in a safe direction; photo by Virginia Shepherd.*

The first rule was the simplest of all, and the most emphatically enforced. You never let the barrel point at anything you would regret shooting—not in play, not in passing, not in carelessness. That rule was always the same, whether you were putting a gun in a rack, taking it out of a car, or handing it to another person. There was no allowance made for unloaded guns, guns with the action open, or even guns that weren't quite "real guns." If the muzzle ever drifted past a person, the gun handler was going to get walloped. I can remember hearing of a few kids getting in BB-gun fights when I was growing up, but they never had a father who would have worn out their backsides for just pointing an empty—or even a broken—BB gun at another person. Like other kids, I got into dirt-clod wars, stick fights, fist fights, and (once) a pitched battle involving homemade slingshots and firecrackers; but I would as soon have robbed a bank as pointed my Daisy Red Rider carbine at another kid. In fact, I would have sooner robbed a bank. I knew that bank robbers generally just went to jail, but I figured that in my family, at least, gun-pointing was a capital offense.

I learned at a very early age how to turn while holding a rifle or shotgun. You execute a sort of pirouette, moving the barrel down or up as you turn, always turning it away from your companions, never letting it swing past a person. All this was courtesy, like standing up when a lady entered the room or saying "ma'am" or "sir" to your elders. Courtesy was also safety, of course; I knew that even way back then. If for one second of one day in all the days I would spend around firearms, something strange happened and there was a roar and a recoil, nobody would get hurt. I am pleased these days when I see a very young kid executing that slow-motion pirouette, working hard to do it just right so that everybody knows he's learning his lessons. When I see an adult *not* do it, even if he's standing in his own living room with his own empty shotgun, I find an excuse to leave, and I try very hard to stay out of his way. I don't want my wife to have to explain that she's a widow because I insisted on hanging around with fools.

My brothers and I learned early that any gun is capable of making an incredible mess of things if it is handled improperly. Bullets from a .22 will ricochet off water, sand, rocks, even tree limbs. A load of birdshot at close range is almost unbelievably deadly. We were instructed to shoot a coffee can at 10 yards to understand the effect. Years later, I heard of a 15-year-old boy not far from where I used to live who killed a medium-sized black

bear with a single-barrel shotgun and one load of number sixes. The kid was rabbit hunting and surprised the bear in a brush pile. The bear got up just a few feet away, the kid pulled the trigger, and the bear hit the ground dead. As far as the bear knew, the boy had a .300 magnum. Now, shooting a bear with sixes is probably illegal, and it is certainly unethical, immoral, and (most of all) unhealthy and imprudent, but the incident demonstrates what a load intended for rabbits and squirrels can do up close. When ranges are measured in feet rather than in yards (and they usually are in fatal accidents), few forces on earth are as unequivocally deadly as a shotgun. Smaller gauges aren't safer; they just have a little less range. A load of shot from a .410 before it spreads out is a semi-solid projectile weighing more than a bullet from a .44 magnum, and travelling at nearly the same speed. It is no toy.

Once you realize that a light dove load will almost rip a coffee can in half at close range, and that, when your uncle gets ready to kill a hog, he just shoots it in the head with a .22 ("Pop," goes the little rifle, and three hundred pounds of hog stretch out to become peaceable pork), you get even more careful handling guns. Even empty ones. Which brings us to the next rule.

When you pick up a gun, you open it to check the chamber. If you don't know how to open it, you don't touch it. If someone hands you a gun which he has just opened and checked, you open it and check it again. I've never heard of a single gun being worn out by being opened for inspection too often. At the end of a hunt or a shooting session, you empty the gun, work the action several times, and visually examine it before putting it in the car or taking it near the house. Whenever possible, you carry a gun with the action open so that you and everybody else can see there's nothing in the chamber. Etiquette again—and safety.

The third rule involves the proper use of the safety. Any safety is just a mechanical device, subject to failure. The safety is not to be regarded as a substitute for safe gun handling. People who climb trees and haul up their loaded rifles depending on the safety to protect them are asking to be weeded out of the gene pool. People who put loaded guns in cars and depend on the safety for protection don't get to ride with me. The proper use of a safety is for added insurance, and it should be left on (and checked frequently) until the moment the gun is being mounted. Sometime in the far distant past, taking off the safety as I began to swing the gun got to be an ingrained habit, and I get very edgy now when I hunt with people who sit in duck blinds and click the safety off when the birds are still a couple of hundred yards away. Anyone too clumsy to switch off a safety button as he stands to fire is too clumsy to hunt with. My father had a hearing problem—the result of a war injury—but he could pick up the "click" of a safety coming off too soon; and when he did, it didn't happen again.

So there you have the big three. Nothing could be simpler. Those rules are so much an ingrained set of habits now that it would take a conscious effort to break them. The other rules are the kind most hunters pick up along the way. We learned how to cross fences (by handing the unloaded gun, with the action open to a companion, then holding both guns while he crosses, or, if you're alone, by first opening and unloading the gun and then laying it under the fence, pointed in a safe direction.) We were supposed to clean a gun whenever we came in from shooting or hunting. Not only did prompt cleaning prevent rust, it also insured that someone had checked the gun again to be sure it was empty before putting it away. You make sure of your backstop, you don't shoot at low birds, you know where your companions are at all times, and you make sure there are no obstructions in the barrel before you ever load the gun. Somewhere along the way I added other rules having to do with not mixing up rifle ammunition (have you ever noticed how much a 140 gr. 7 x 57 and a 130 gr. .270 look alike?) and taking all sorts of pains with my handloading, but I had the basics down pretty well by the time I was 12 years old.

As Ruark's grandfather pointed out, if you're around guns long enough you'll see some strange things happen. What makes them just "strange" instead of tragic is ingrained habit. I once owned—for a very, very short time—a little imported double 20 gauge which would occasionally fire one or both barrels if I closed the action quickly. This was a very surprising thing to learn and, if I had not spent most of a lifetime keeping barrels pointed in a safe direction, could have been a lot worse. A good friend happened to glance down at his Ithaca pump one day on a duck hunt and discovered that the little spring-loaded ball that keeps tension on the safety bar had come loose. Every time he moved the gun a certain way, the safety would come off. No harm done—because the guy is a safe hunter with a habit of constantly checking the safety.

I once saw a man shoot the ground in a cornfield a few feet in front of him while we were on a dove hunt. I don't know how it happened. Maybe the safety failed, or maybe it was the result of a single moment of absent-mindedness. Who knows? Maybe a mosquito lit on his finger. He was with someone else, and I never got around to asking.

NEVER *close the action of your firearm unless you are ready to shoot. The action should always be open even if the gun is unloaded; photo by Virginia Shepherd.*

Everybody got quiet, and the shooter looked pale and shaky. Then he unloaded his gun and just sat for a little while. Thinking back on it, I imagine he was probably a pretty safe hunter. He may have gone most of his life without ever having had a gun discharge before he meant it to. The one fraction of a second in his life when something strange happened, he just blew up a cornfield. He had not let the barrels point in an unsafe direction, so he was just embarrassed and scared. There are lots of things worse than being embarrassed and scared; I'm sure he thought of some of them.

A couple of years ago, one of my brothers and I and a handful of other relatives and friends attended a large, well-organized turkey shoot in a nearby town. It was around Thanksgiving, and going to a turkey shoot in the fall had gotten to be a sort of tradition. We spent a fair amount of money with the local civic group putting on the shoot, and Bob's friend Trish won a turkey. Maybe some others in the group did too; I don't remember. We had fun. The people running the shoot were properly strict about where and when a gun could be loaded, and the whole thing was as safe and wholesome as a church picnic. The other shooters were friendly, and almost everybody there seemed to have learned good sense and gun safety somewhere along the line. Later in the evening, though, I couldn't help noticing some of the gun-handling habits of a few of the other shooters. These guys stood out because they were such exceptions. One young man with a Remington 1100 kept the breech closed except when he was on the line, putting in a shell. An 1100 *locks open* after the last shell is fired, so he had to close it deliberately before going back to mingle with the crowd. Once there, he seemed blissfully unaware of where the muzzle was pointing. If would sort of drift around as he walked, covering a bit of leg here, a groin there, further down the line a face or abdomen. Someone said something to him, and he left after a little while.

Only two others were noteworthy for their lack of good sense. An older man rested the barrel of his gun on his foot while he inspected one of his targets. Perhaps he didn't know any better, or maybe he had always wanted to look like Captain Ahab. Another fellow, this one very young, stood watching the line of shooters with his gun butt on the ground, his hands folded neatly over the barrel. I have never seen a more self-destructive looking pair. I looked at my brother.

"What do you reckon your father would have said if he had seen you handling a shotgun like that?"

"I don't want to think about it," Bob said.

For most shooters, I know, gun safety is a habit and an attitude. The

ALWAYS *unload your firearm before crossing a fence; photo by Herb Foster.*

NEVER *lean a gun against a fence you are climbing over. Unload and place gun with barrel facing away from you and in a safe direction on the ground under the fence; photo by Herb Foster.*

decisions they make about handling a firearm or about when to shoot are deeply ingrained patterns of behavior that work to keep everybody safe. That's a very good thing. I have never even seen an accidental injury caused by a firearm, and I have been around them daily for over 40 years. I have, as I noted earlier, seen a couple of strange incidents involving holes being shot in duck swamps or in cornfields, but the same habits that were courtesy when things were normal and the guns were unloaded, were life savers when everything else somehow went wrong. I have never spent much time afield with anyone whose gun-handling was in the least suspect; as much as I love to be outdoors, I would rather watch reruns of *Gilligan's Island* than take a chance on being plugged by a careless companion. I also wouldn't want to watch him shoot himself, a dog, or a boat.

One of the simple pleasures of life is in watching what you regard as good habits and good manners being passed along from generation to generation. I've had a hand in some of it, having taught a son and helped teach young brothers, and having watched as others—nephews and nieces, children of friends and neighbors—were taught. There's a feeling of continuity as well as safety there. Not long ago my new daughter-in-law was in the house, and we started talking about hunting. We were in the study upstairs, and I had been cleaning a shotgun. I opened it, closed it, and passed it to her. She opened it to check the chambers, then closed it to see how it would swing. When I walked across the room she turned the gun so that the barrels were away from me. "She'll do," I thought. "She'll do just fine." Looks like I've got a new hunting buddy. □

Steve Ausband is the chairman of the English Department of Averett College in Danville and is a frequent contributor to Virginia Wildlife.

Firearms Safety Instruction

If you would like to learn more about firearms safety and hunting in general, consider taking a hunter education course offered free of charge by the Virginia Department of Game and Inland Fisheries. Working together with dedicated volunteer instructors from around the state, the Game Department trains thousands of new hunters every year in firearms safety, hunter ethics, wildlife identification, and survival skills. The courses, mandatory for all new hunters over 15 years old and any young hunter between 12 and 15 years of age, are offered through the year. Contact the Game Department training sergeant in your area, or the Hunter Education Division, Virginia Department of Game and Inland Fisheries, P.O. Box 11104, Richmond, VA 23230-1104, 1-800-252-7717 for more information.

Hunter Education Training Sergeants:

District 1
Rex Hill, Richmond Office
804/367-1000

District 2
Mike Ashworth, Vinton Office
703/857-7704

District 3
Harry Street, III, Marion Office
703/676-5443

District 4
Jess Sager, Staunton Office
703/332-9210

District 5
Randy Grauer, Fredericksburg Office
703/899-4169

District 6
Diane Thompson, Deep Creek Office
804/683-2868

Habitat

by Nancy Hugo

Winterberry

When most of us think of hollies, we think of trees like the American holly with spiny evergreen leaves and red berries. But did you know that Virginia has eight species of native hollies, many of them shrubs, some of them deciduous, and one of them with black berries?

Winterberry, *Ilex verticillata*, is the most widespread of Virginia's deciduous hollies. It's a startlingly beautiful shrub or small tree often found on stream banks, at the edges of ponds, or in damp thickets. It has brilliant red berries held on nearly leafless branches. You'd think it might be less beautiful than the American holly for its lack of lustrous leaves, but the berry-laden branches of winterberry are to American holly as a nude body is to a figure dressed in designer clothes. They may both look great, but it's the nude that stops the traffic.

Winterberry (Ilex verticillata); *photo by Rob Simpson.*

Branches of winterberry are particulary coveted by flower arrangers who use them in Christmas arrangements, but they should be picked sparingly or not at all because the shrub is slow growing. Winterberry also provides winter food for birds, especially brown thrashers, robins, mockingbirds, catbirds, and bluebirds. Birds generally wait until late winter or early spring to take winterberries, however, so we have a chance to enjoy looking at them first.

Some people know winterberry by the common name Black Alder, although winterberry is unrelated to the alders and the two shrubs look little alike. It would be hard to mistake winterberry's wands of red berries for the alder's long catkins and tiny brown cones, but maybe the two shrubs are connected in a name because they—along with sycamores, buttonbushes, maples, and sweet gums—tend to share the same wet habitats.

Ilex decidua or Possum Haw is another deciduous holly with red berries native to Virginia. (To assure the never ending confusion over common names, there is also an unrelated viburnum called Possum Haw). *Ilex decidua* is native to the eastern part of Virginia where it grows in damp thickets and its fruit provides food for turkey, quail, and songbirds. Deer browse its new growth. Telling it and winterberry apart is not always easy, but winterberry has leaves with sharp-toothed edges and Possum Haw's leaves are wavy-edged or bluntly toothed, more like scallops than teeth.

Inkberry, which, alas, shares its common name with Pokeweed, is a native evergreen holly with black berries. Found only in the southeastern part of the state, it enjoys the sandy, peaty, acid soils of coastal pinelands. It's a multi-stemmed shrub with smooth shiny leaves that not only provides food for wildlife (birds seem to like black holly berries as much as red ones) but also provides nectar for bees who mob thickets of *Ilex glabra* when its inconspicuous flowers are in bloom.

All of these hollies are as beautiful in the garden as they are in the wild and they make great wildlife plants. Winterberry is particulary valuable because it holds its berries longer than many berried shrubs and it's so adaptable. Although most berry-bearing shrubs require sun, winterberry will tolerate shade. It also adapts to a wider variety of soils than its wet habitat would suggest. Three whips of winterberry given me by a friend are thriving in the average moisture of my shady backyard, and it will grow in either light or heavy soils. It does need acid soil, however, and takes a long time to reach its ultimate height of about 10 feet.

I'm told inkberry also makes a great garden plant especially in poorly drained shady sites. It spreads by underground runners to form broad thickets and can reach 6-10 feet in height. It's recommended for planting behind azaleas or other deciduous shrubs.

All three of the native hollies mentioned here, and others, are available from Woodlanders Nursery, 1128 Colleton Ave, Aiken, S.C. 29801. For pollination, you'll need both male and female plants of Possum Haw and winterberry. Woodlanders offers both. □

Prevent Winter Boat Theft

by William Antozzi

When boats are laid up for the winter, some are left in the water or hauled out on trailers and stored at home. Others are kept in commercial storage. This off season is a favorite of thieves because the owners are less likely to be around.

Those vessels left in the water are more likely to be stolen if they are on large rivers or bays where they can be driven or towed long distances and then sold. Size is important too. Large vessels are harder to hide and easier to identify. Vessels on small bodies of water can also be stolen, but they must be removed on trailers. In these circumstances, thieves are more likely to simply steal items left on board.

Owners should photograph boats from several angles and record hull identification numbers. They should remove everything of value when the boat is laid up. Anything left on board should be listed on a record sheet and should be engraved or marked with the owner's social security number. If the vessel is large enough, a burglar alarm system should be installed. Insurance policies should be checked to determine if everything valuable is included in the coverage.

If an outboard motor is left with the boat, it should be secured with special clamping locks and transom bolts. If possible, an outboard motor should be removed and stored at home or a similarly safe place. Portable gas tanks should also be removed.

If a boat is left at home on a trailer, a thief can hook the trailer to a tow vehicle and drive off with it. It is best to padlock the hitch lever on the trailer tongue and if practical, use a chain and padlock to secure it to a tree or other large object. A car can also be parked between the trailer and the road and one or more of the trailer wheels can be removed. Of course, keys should never be left in the ignition, especially if the vessel is left at a marina.

In-the-water storage is good throughout the winter, but the owner should make frequent visits at random times. If other boats are spending the winter nearby, it is wise to form a group to look after one another's boats. One or more "kill switches" should be in a hidden location on the ignition line. Another good idea is to disable the motor by removing essential parts such as rotor, spark plugs or even the propeller. It would be a good idea to remove batteries, but in cases of in-water storage, batteries must remain on board to operate the bilge pumps.

If a boat is stolen, local and state police must be immediately notified. Police must be given a description of the boat, with photos if available, the hull identification number, serial number and other details. It is also wise to call the insurance company, the United States Coast Guard, local marinas, and the dealer from whom the boat was purchased so it can be added to the local Marine Trades Association "hot list." □

Hunter Education Instructor Honored

The 1989 William Dixon Morgan Memorial Award for outstanding contribution to hunter safety in Virginia was awarded to Franklin L. Taylor of Millboro, Virginia. In an effort to encourage exemplary hunter safety instruction in the state by recognizing the person making an outstanding contribution to the Virginia Hunter Education Program during the year, this prestigious award was established by Mr. and Mrs. William Morgan of Madison Heights in memory of their son who was killed in a hunting accident in 1983.

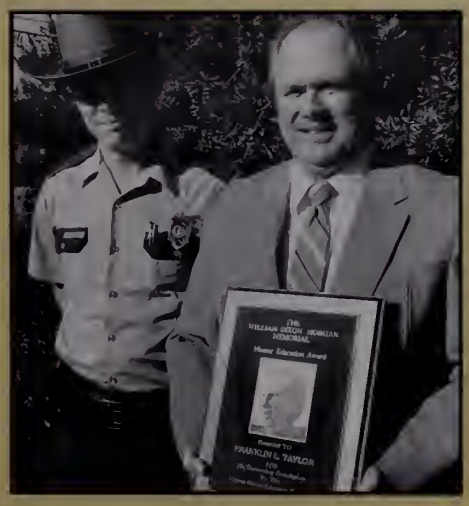
Frank Taylor is a key figure in instructor training and workshops that are held in his area. Having accepted volunteer coordinator responsibilities for Augusta, Bath and Highland Counties, Taylor contributed 359 hours of his time and drove some 5,200 miles last year alone while participating as the only hunter education instructor coordinating courses in more than one county in Virginia.

Captain Donald Miller of his district has described Taylor's effort in the Virginia Hunter Education Program as "gold to us."

Taylor schedules, coordinates and instructs in nearly every course conducted in each of the three counties, and has frequently assisted other county coordinators in "getting started." Sergeant Jess Sager, who works closest with him in the program, relates "there is no job that is too big or too small for Frank Taylor."

Taylor is only the second volunteer instructor in the program to have trained 10,000 students. □

Frank Taylor (r.) received the 1989 William D. Morgan Memorial Award. Sgt. Jess Sager (l.) coordinates hunter education training in Taylor's district; photo by Herb Foster.



Family Outdoors

by Spike Knuth

Sportsman's Winter Companions

The woodlands and fields of winter can be very cold and barren. They often seem so silent and devoid of life. The bundled-up winter hiker or deer hunter walks quietly through the stillness—snow muffling his footsteps. With the exception of a rabbit or occasional squirrel, the footprints of which he had seen in the snow, he may think he is the only living creature in the woods. However, if he stands quiet and listens and watches carefully, he will find out he has quite a bit of company. The hedgerows, marshes, woodlands and streams in and along which the sportsman pursues his quarry, is home to numerous birds.

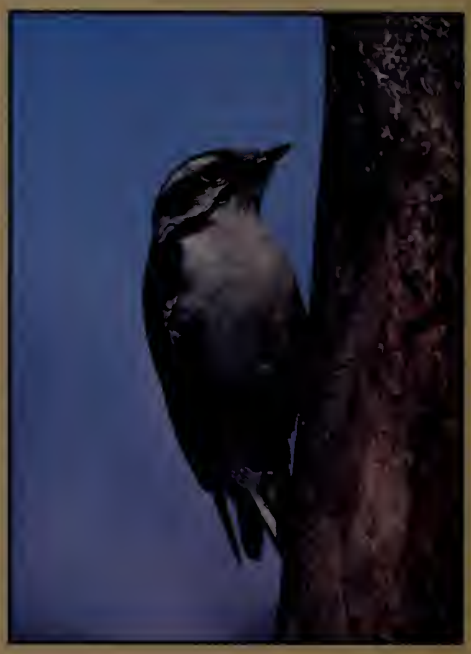
During the fall and winter hunting seasons it is not unusual to find numerous wintering songbirds in the same areas where deer, squirrel, grouse, turkeys, pheasants, quail and waterfowl are living. This is because they need the same things—basically, food, water and shelter. Often, only certain portions of an area can provide for these needs, so game and nongame alike congregate in those areas. For that matter, it doesn't take long for the other natural predators to learn of these areas as hawks, owls, raccoons and other predators also gather there.

A winter hunter usually knows the habits of the wild creatures around him, even those he is not hunting. For example, in severe cold, most game birds don't move until later in the day when the sun is at its warmest. Songbirds, too, wait for the warmth of the sun and will follow it, bathing in that warmth all through the day, as long as possible before going to an evening shelter. In the mountains, game birds and mammals remain on the sunny slopes to feed, not only for the warmth, but because that area thaws first, providing trickles of drinking water and exposed food from melting ice or snow. Hollows and leeward slopes give protection from the wind. A thick stand of cedar or pine provides protection from the elements as well. A hunter is as apt to flush a flock of kinglets and chickadees as a trio of grouse from a stand of conifers. They both utilize the same types of cover. If anything, most songbirds are far more versatile than any game species. They can inhabit a greater variety of habitat and still obtain all their needs, whereas game species need more territory and are a bit more selective concerning food and other requirements. For example, the white-breasted nuthatch will wander into residential areas in nasty weather, where it can obtain handouts from increasing numbers of bird feeders maintained by city and suburban dwellers. A ruffed grouse or wild turkey will not normally go to town for a handout. They have to tough it out in the wilds.

A common companion of the sportsman is the little slate-colored junco, often called a snowbird. A sparrow-like bird, it is a member of the finch family—a family of seed-eaters. Juncos spend their summers in northern spruce and fir forests where they are attracted to cutover areas containing slash piles, the edges of old roads and the brushy edges of forest openings. In Virginia they can be found at the highest elevations in summer. Hunters walking the hedgerows or brushy field edges know this little bird with the quick, nervous flight—showing white-edged tails and uttering its "chinking" or "tsipping" call.

Squirrel and deer hunters are familiar with the downy woodpecker as well. The bird seems to delight in shattering the stillness of the woods by rapping loudly and suddenly on a hollow tree. Quite common all over the eastern United States, the male downy has a small, bright red patch at the back of its head which the female lacks.

Oddly, man, through some of his improper land use practices, has created an abundance of habitat for many bird species. The marshland that



Downy woodpecker; photo by Jack R. Colbert.

has been filled in is lost forever to marsh-dwelling birds whose habitat demands are more specific. The resultant weed fields, on the other hand, are ideal for the tree sparrow and other birds with similar habitat needs. The vegetation will change from year to year. Small trees will begin to sprout—like willow or big-tooth aspen—and other species of birds will benefit. Each species of marsh, water and songbird has certain habitat requirements. Over the years, each may eventually utilize the same area—take their turn so-to-speak—as the land goes through its succession of changes. But man can alter plant succession and control it to a certain extent. He can maintain land to benefit the most desirable combination.

Natural marshlands, woodlands or fields with a little managing offer habitat to a great variety of birds, while total "shopping center" development by man offers habitat to almost none. So, why not manage the land to the best of our ability and have our game birds and our little companions too? □

Recipes

by Joan Cone

Grouse—A Gourmet's Delight

There is nothing more exciting than going afield with dog and gun in search of the wily ruffed grouse. But while it may be difficult to hunt and even more of a challenge to hit, it is the most tender and delicious eating of all upland birds.

Ruffed grouse is not as dry as pheasant or quail and therefore can be roasted, sauteed or prepared in a casserole as in the following recipe.

Menu:
Peanut Butter Soup
Baked Ruffed Grouse With Apples
Sherried Rice
Brussels Sprouts Oriental
Cheese Cake

Peanut Butter Soup

½ cup natural, creamy peanut butter
2 cups water
4 teaspoons cornstarch
4 teaspoons water
¼ cup milk
Sugar to taste
3 to 4 tablespoons chopped peanuts

Mix peanut butter with ½ cup water using a whisk until smooth. Add another ½ cup water and stir again until the mixture is smooth. Boil the remaining 1 cup water. Add peanut butter mixture, stirring constantly, and cook over low heat until it boils. Mix cornstarch and water and then pour paste slowly while stirring until soup thickens. Add milk and sugar and heat through. Serve hot with sprinkles of chopped peanuts. Serves 3 to 4.

Baked Ruffed Grouse With Apples

2 grouse, halved
4 tablespoons butter or margarine, divided
4 medium-sized cooking apples, peeled and chopped
1 teaspoon sugar
3 tablespoons cream or half and half
Salt and pepper to taste

Melt 3 tablespoons butter in a skillet and place grouse pieces skin side down first; brown on all sides. Remove grouse and add 1 tablespoon more butter to drippings in skillet. Saute chopped apples in skillet and add 1 teaspoon sugar. When apples are a little softened, place them in bottom of a casserole. Put grouse pieces on top of apples with juices from pan. Pour cream over grouse and add salt and pepper. Cover casserole and bake in a 350 degree oven for 1 to 1½ hours or until meat is fork tender. Serves 3 to 4.

Sherried Rice

1 cup uncooked regular rice
2 cans (4 ounces each) sliced mushrooms, undrained
1 can (10½ ounces) beef broth
¼ cup sherry
¼ teaspoon salt
¼ cup butter or margarine, melted

Combine all ingredients in a 1½-quart casserole. Bake, covered, in a 350 degree oven for 45 minutes or until rice is fluffy. Makes 6 servings.

Brussels Sprouts Oriental

1½ pounds Brussels sprouts, washed and trimmed
Salted water
1 teaspoon soy sauce
1 tablespoon butter or margarine
1 can (8 ounces) water chestnuts, drained and sliced

Simmer Brussels sprouts, covered in a small amount of salted water for about 8 to 10 minutes until tender. Drain, add remaining ingredients and heat. Serve hot. Serves 4.

Cheese Cake

Graham Cracker Crust:

Begin by making the graham cracker crust in a 9-inch springform. Do it by mixing 1¼ cups of graham cracker crumbs with ¼ cup confectioners powdered sugar and ¼ cup melted butter or margarine. Pour crumb mixture into a 9-inch springform and press mixture firmly against bottom and sides of pan.

Filling

3 packages (8 ounces each) cream cheese
¾ cup sugar
4 eggs
½ teaspoon vanilla
Juice of half a lemon
1 pint sour cream
2 tablespoons sugar

Preheat oven to 325 degrees. Cream the cheese and sugar; add eggs one at a time. Stir in vanilla and lemon juice. Pour mixture into the crumb-lined spring form and bake for 40 minutes. Mix 1 pint sour cream with 2 tablespoons sugar. Spread this mixture on top of the hot cheese cake and return to oven for 10 minutes. Let cake cool and then refrigerate. Remove from springform before serving. Serves 10 to 12. □

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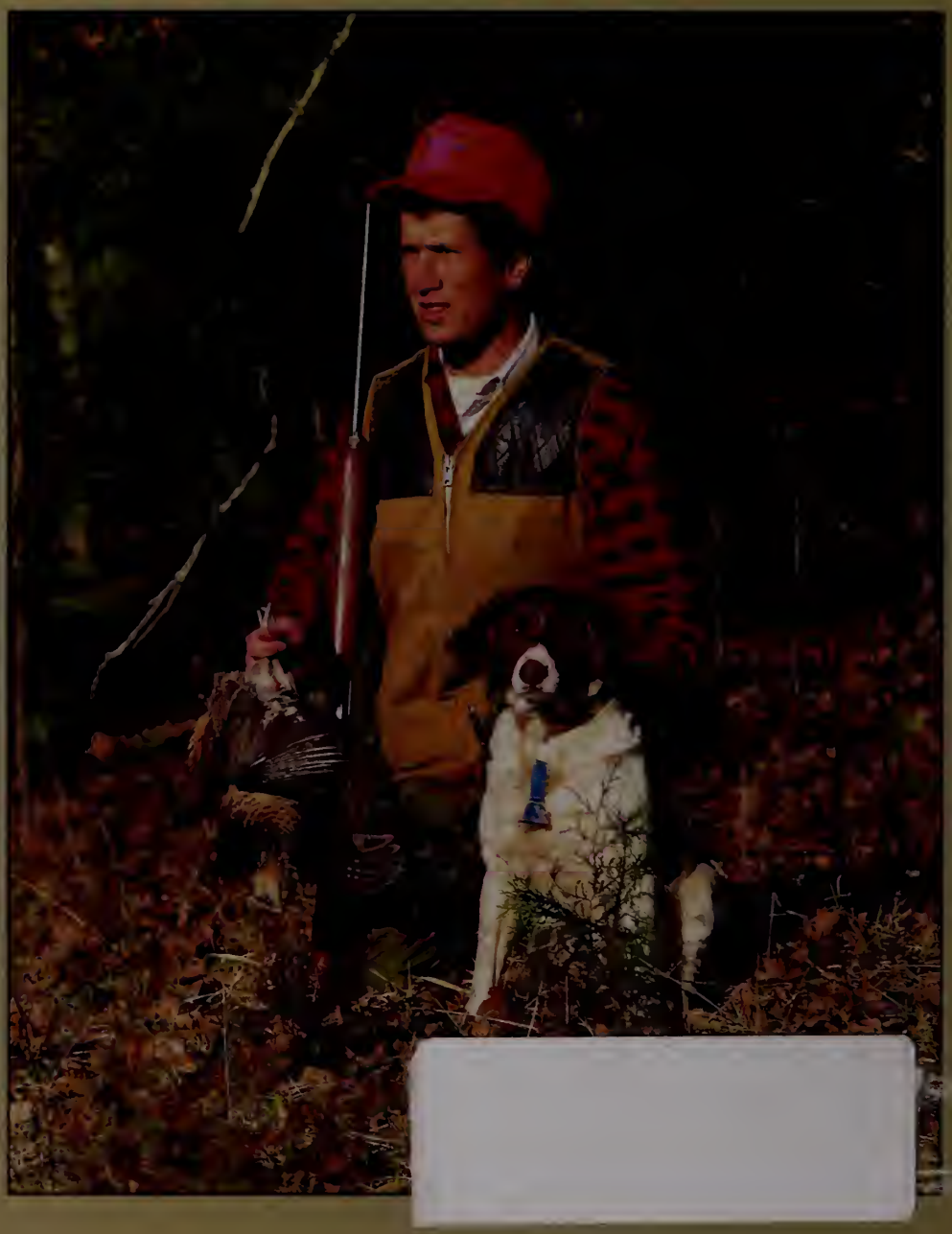

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